



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 10**

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OFFICE OF  
ECOSYSTEMS, TRIBAL AND  
PUBLIC AFFAIRS

December 30, 2014

Ms. Nancy C. Gleason  
U.S. Army Corps of Engineers  
CENWS-EN-ER  
P.O. Box 3755  
Seattle, Washington 98124

Re: U.S. Environmental Protection Agency Comments on the U.S. Army Corps of Engineers Puget Sound Nearshore Ecosystem Restoration Study Draft Integrated Feasibility Report and Environmental Impact Statement. EPA Project Number 09-061-COE.

Dear Ms. Gleason:

We have reviewed the Corps' Puget Sound Nearshore Ecosystem Restoration Study Draft Integrated Feasibility Report and Environmental Impact Statement (draft FR/EIS). This review was conducted in accordance with the EPA's responsibilities under the National Environmental Policy Act and Section 309 of the Clean Air Act. Section 309 specifically directs the EPA to review and comment in writing on the environmental impacts associated with all major Federal actions. Our review of the draft FR/EIS considers the expected environmental impacts of the proposed action and the adequacy of the EIS in meeting the procedural and public disclosure requirements of NEPA.

Our interest in this draft FR/EIS is also informed by the EPA's recognition of Puget Sound as an estuary of national significance and approval of the Puget Sound Partnership's Action Agenda as the Comprehensive Conservation and Management Plan of the Puget Sound National Estuary Program.

**Project summary**

The draft FR/EIS documents the planning process for ecosystem restoration of the Puget Sound nearshore zone. The purpose of the proposed action is to restore the natural processes in the nearshore zone that sustain the biological, economic, and aesthetic resources important to the people of the Puget Sound region and the nation in a cost-effective and socially feasible manner with minimal risks, and to facilitate effective monitoring and adaptive management to maximize attainment of restoration objectives. The need for the proposed action comes from recognizing that valuable natural resources in Puget Sound have declined to a point that the ecosystem may no longer be self-sustaining without immediate intervention to curtail significant ecological degradation.<sup>1</sup>

There are two alternatives, Alternative 2 – the preferred alternative and Tentatively Selected Plan, and Alternative 3. Alternative 2 includes 11 sites that, taken together, would remove 75,172 feet of stressors

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<sup>1</sup> draft FR/EIS, p. 6

from the nearshore zone (most of which are tidal barriers, nearshore fill, and shoreline armoring) and restore 5,354 acres of tidally influenced wetlands in river deltas and shallow embayments. Alternative 3 includes 18 sites that would remove 113,094 linear feet of shoreline stressors and restore 5,517 acres of tidally influenced wetlands. Alternative 2's average annual cost over the 50-year period of analysis is \$48,268,000; the average annual cost for Alternative 3 is \$57,071,000.

### **Problems and opportunities**

Based on a series of white papers available at [www.pugetsoundnearshore.org](http://www.pugetsoundnearshore.org), and according to the draft FR/EIS, there have been major direct and widespread changes to Puget Sound nearshore ecosystems. We agree that these observations support a science-based problem statement and provide a focus for evaluating alternatives and formulating a restoration plan. Past physical changes and stressors of particular concern to the EPA include the following: <sup>2</sup>

- 55.5% of the historical wetlands (57,823 acres) in the 16 largest deltas of Puget Sound have been eliminated.
- 93.1% of the tidal freshwater and oligohaline transitional wetlands have been lost.
- Embayments historically accounted for 689 miles of Puget Sound shoreline (23.2%) but now account for 375 miles of shoreline (15.0%); this represents a decline in length of 45.5%.
- Changes to beaches and bluffs have resulted in the loss of sediment supply and the interruption of sediment transport processes. Armoring occurs along 33.4% of bluff-backed beaches and 27.2% of barrier beaches.
- The current shoreline is about 15% shorter than the historical length of the shoreline. Artificial shoreline now represents about 9.5% of the shoreline of Puget Sound.

These physical changes, which continue today, have contributed to significant degradation of Puget Sound's natural resources. For example, the diking, draining and filling of freshwater and estuarine wetlands have contributed to a situation where most Puget Sound Chinook Salmon populations are at a small fraction of their historic levels. Several populations within the Nooksack, Lake Washington, mid-Hood Canal, Puyallup, and Dungeness basins have returns of fewer than 200 adult fish, signifying extinction risk.<sup>3</sup>

While these problems are significant, we agree with the draft FR/EIS that opportunities exist to restore Puget Sound nearshore ecosystem processes and, thereby, contribute to the health of species that depend on that habitat, directly or indirectly, for survival. We applaud the Corps and Washington Department of Fish and Wildlife for your efforts on this project and note that restoring nearshore ecosystems is consistent with the Puget Sound Action Agenda, the EPA's mission to protect human health and the environment, and the purpose of the NEPA.

The purposes of this Act are: To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Council on Environmental Quality.<sup>4</sup>

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<sup>2</sup> draft FR/EIS, chapter 2

<sup>3</sup> draft FR/EIS, p. 69

<sup>4</sup> Sec. 2 [42 USC § 4321]

### **Responsiveness to EPA's scoping comments**

The draft FR/EIS is responsive to EPA's December 2009 scoping comments. In our 2009 scoping comments, we recommended that the Nearshore Study team: optimize benefits at multiple scales while developing priorities, consider climate change in project planning, use Valued Ecosystem Components to identify objectives, and benefit from lessons learned from other regional coastal restoration initiatives. The draft FR/EIS addresses each of these recommendations. Moving forward, we believe there are additional opportunities to make changes to the final FR/EIS that would more fully protect the environment and assess environmental impacts. Our recommendations are detailed below.

### **Valued Ecosystem Components**

We believe that the draft FR/EIS has positively identified relevant Valued Ecosystem Components (VEC). We agree that coastal forests, beaches and bluffs, eelgrass and kelp, forage fish, great blue heron, juvenile salmon, killer whales, native shellfish, and nearshore birds are VECs that are likely to be enhanced by nearshore restoration, have direct or indirect value to humans socially, culturally, or environmentally, and are recognized as emblematic of a healthy Puget Sound.

To more fully assess environmental impacts in the final FR/EIS, consider including additional information relating project benefits to ecological outcomes for identified VECs. For example, the draft FR/EIS clearly states that Hood Canal summer chum populations have been declining since 1978.<sup>5</sup> The draft FR/EIS also describes how three proposed restoration sites (in Alternative 3) would benefit Hood Canal summer chum salmon by providing rearing habitat for juveniles and restoring shoreline processes that sustain beaches and kelp and eelgrass beds for forage fish spawning (a preferred prey item).<sup>6</sup> What is less clear is the extent or likelihood that project benefits would reverse or contribute to reversing the recent and ongoing declining trend for Hood Canal summer chum populations.

To address our interest in additional information relating project benefits to ecological outcomes for identified VECs, we recommend that the final FR/EIS include a discussion of the influence of project actions on trend predictions. We understand that relating project benefits to trend predictions for all VECs may not be possible. Where possible, however, we believe influence on trend predictions could help decision makers better understand the scale of this project's potential long-term benefits relative to ongoing problems. For example, are project benefits in Hood Canal likely to reduce or reverse Hood Canal summer chum population decline? Or, for example, how would project actions influence Bolte and Vache's<sup>7</sup> predictions for tidal wetland loss by 2060?

### **Optimize benefits at multiple scales**

We believe it is important to address all four Nearshore Study restoration strategies (river delta, barrier embayment, coastal inlet and beach) and appreciate that both alternatives meet this criterion. While we agree that both alternatives include at least one restoration site to address each of the four strategies, we do not agree that both alternatives are geographically representative of the entire study area. At the basin scale, we are concerned that the preferred alternative, Alternative 2, only includes restoration sites in

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<sup>5</sup> draft FR/EIS, p. 69

<sup>6</sup> draft FR/EIS, p. 152

<sup>7</sup> See draft FR/EIS, p. 36

four of the Study's seven delineated sub-basins for Puget Sound. Alternative 3 is more geographically representative at the basin scale because it has restoration sites in all seven sub-basins – including: the Strait of Juan de Fuca, Hood Canal and South Puget Sound. We believe it would be more geographically comprehensive to select Alternative 3 as the preferred alternative.

Benefits which are unique to Alternative 3 and which we would highlight include:

- taking the opportunity to produce the rare condition of a Puget Sound watershed with minimal development impacts in Hood Canal's Big Beef Estuary – home to three species of salmon;
- improving an especially diverse area by restoring the Duckabush Estuary, home to herons, eelgrass, herring spawning areas, shellfish beds, seal haulouts and pupping areas, trumpeter swan feeding areas, waterfowl concentrations and winter range for Roosevelt Elk, as well as six salmonid populations;
- providing at Harper Estuary at least one site on the west side of Puget Sound for habitat connectivity between altered shorelines;
- addressing spawning habitat for forage fish species in the Strait of Juan de Fuca at Snow Creek and Salmon Creek Estuary, and in the southernmost inlet of Puget Sound at Budd Inlet Beach.

To address our interest in optimizing benefits for the entire study area, we recommend that the Corps identify Alternative 3 as the preferred alternative.

#### **Benefit from lessons learned**

In our 2009 scoping comments we recommended that the project planners and implementers be mindful, articulate, and demonstrative in sharing the lessons learned from other regional coastal restoration initiatives. Draft FR/EIS section 1.7, Prior Studies, Reports, and Existing Water Projects is partially responsive to our recommendation. Section 1.7 is responsive because it lists the Corps Seattle District's experience with studies and restoration projects in the Puget Sound area. Based on this experience - and the Corps' expertise in water-related resource problems - we agree that the Corps is well suited to take the lead on this large-scale restoration effort.

While Section 1.7's list is helpful, and we agree that the Corps is well suited to this task, we recommend that the final FR/EIS include additional information on actual lessons learned from other coastal restoration projects – both within the Seattle District and elsewhere in the country. What are key characteristics of restoration proposals within the Seattle District and elsewhere in the country that have been successfully funded and implemented? What large scale restoration project in the U.S. is analogous to this Study, how has the Seattle District learned from this experience? What are some examples of nearshore restoration techniques, such as dike breaching, which have been especially successful? How have lessons learned from other projects across the country been integrated into planning for this Study?

#### **Linking protection and restoration**

We agree with the draft FR/EIS that protection of healthy functioning portions of the nearshore zone is often a more cost-effective approach to ensuring delivery of ecosystem functions, goods, and services.<sup>8</sup> We also understand that protection is not a Corps mission and that protection-focused actions will need to be addressed outside of the Corps authority by local, State or tribal organizations. Because protection is a key component of improving Puget Sound, we believe the final FR/EIS should include additional information on the link between protection and restoration. Describe, in the final FR/EIS, how ongoing

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<sup>8</sup> draft FR/EIS, p. 39

and predicted protection efforts are likely to support and work in sync with this project's restoration efforts. The final FR/EIS should – to the extent possible - improve decision-makers' confidence that restoration investments in Puget Sound will result in a net improvement – as opposed to a mitigating effect on ongoing adverse trends resulting from inadequate protections.

#### **Climate change**

We appreciate the draft FR/EIS's information on sea-level change (SLC) and vertical land movement (VLM). We also appreciate that the Study team will continue to evaluate sea-level change models, and further resolve VLM rates for site-specific project planning during the preconstruction engineering and design phase. What is less clear is whether SLC, VLM, or other climate impacts influenced the selection of restoration sites. Some restoration sites may be more inherently climate resilient than others - such as having relatively more flexibility to shift landward. In order to address our interest in inherent climate resiliency, we recommend that the final FR/EIS discuss how climate resiliency factored into the formulation of the final array of alternatives. If the analysis suggests that changes to the suite of restoration sites based on climate information would result in greater overall benefits, consider making changes to the final array of alternatives.

#### **EPA rating**

We are rating the draft FR/EIS Environmental Concerns – Insufficient Information (EC-2). A copy of our rating system is enclosed. Our "EC" rating relates to our concern regarding the limited geographic approach of Alternative 2 and our preference for a more geographically comprehensive alternative. Our "2" rating relates to our recommendations to provide additional information on VECs, lessons learned, protection opportunities and climate change.

Thank you for this opportunity to comment and if you have any questions, please contact me at (206) 553-1601 or by electronic mail at [reichgott.christine@epa.gov](mailto:reichgott.christine@epa.gov), or Erik Peterson, the lead reviewer for this project. Erik can be reached at (206) 553-6382 or [peterson.erik@epa.gov](mailto:peterson.erik@epa.gov).

Sincerely,



Christine Reichgott, Unit Manager  
Environmental Review and Sediment Management Unit

Enclosure:

1. EPA Rating System for Draft Environmental Impact Statements